Primary Prevention of NCDs

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Chronic Diseases Training Course
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Outline

• Learning Objectives
• Review concepts – risk, causality
• What works in Primary Prevention?
• What does not work?
Learning Objectives

• Review risk and causality
• Review prevention principles
• Identify established effective and cost-effective primary prevention strategies
• Identify commonly used primary prevention interventions with NO evidence of effectiveness
Causality

• Origins in Infectious Diseases
• Problematic in Chronic Diseases
• Correlates of Association
  - dose-response
  - temporality
  - strength of association
  - biological plausibility
  - consistency
Risk?

“a probability of an adverse outcome, or a factor that raises this probability”

World Health report 2002
Risk concepts

- Risk prevalence and incidence
- Absolute and Relative risk
- Population attributable risk
- Risk surveillance, assessment, management, communication
- Risk perception - voluntary/involuntary risk
Prevention

- Continuum not dichotomy
- Primary: avoiding the occurrence of disease/pre-event
- Secondary: early detection & reversal/re-event
- Tertiary: prevent/delay complications
Primary Prevention

• most effective health care interventions known e.g. immunisation
• CVD mortality decline in developed countries > 50% due to primary prevention
• Primary & Secondary Prevention balance
• Difficulties implementing Primary Prevention
Primary Prevention

- Prevention paradox
- Population wide and/or
- High-risk approaches
What works in Primary Prevention?

- Hypertension
- Hyperlipidaemia
- Cervical cancer
- Colorectal cancer
- Breast cancer
- Obesity
What works in Primary Prevention?

• Lifestyle measures work for high BP
  – weight reduction
  – reduction alcohol intake
  – physical activity
  – sodium moderation

24-54% reduction from trial results
What does not work?

- Lung cancer screening
- Ovarian cancer screening
- Pancreatic cancer screening
- Prostate cancer screening uncertain
- Diabetes in general population not cost-effective
Cancer

• Estimates 40-50% cancers preventable
  - 25% smoking and diet and infection
  - 15% through screening
  - 10% through diagnosis and treatment
Type 2 Diabetes

- Physical activity and moderate weight loss in middle-aged men with IGT reduced diabetes by 50 – 58%
Physical activity

• Moderate PA (3 hours brisk walking per week) reduces Type 2 diabetes, obesity, CVD, some cancers
Stroke

- Blood pressure reduction
- Treatment of hyperlipidaemia
- Antithrombotic therapy in AF
- Antiplatelet therapy in MI
COPD

- Smoking prevention and cessation most effective and cost effective way to prevent COPD
Primary Prevention and Risk Reduction?

• Risks are continuous
• Most events in populations occur in people with low risk
• Risk reduction/risk management
• Future risk assessment consists of risk factors and markers e.g. CVD

Suggested Reading
van Venrooij et al Journal of Internal Medicine 2002; 251(4): 301-